**IN THE UNITED STATES PATENT AND TRADEMARKS OFFICE**

In The Matter of Patent Application:

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| First Named Inventor | : | Hamid Ould-Brahim |
| Serial No. | : | 10/657,939 |
| Filing Date | : | September 9, 2003 |
| Title | : | SVC-L2.5 VPNs: COMBINING LAYER-3 VPNs TECHNOLOGY WITH SWITCHED MPLS/IP L2VPNs FOR ETHERNET, ATM AND FRAME RELAY CIRCUITS |
| Examiner | : | HOANG, HIEU T |
| Art Unit | : | 2152 |
| Confirmation No. | : | 1612 |

To: Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
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Dear Sir:

Further to the Notice of Non-Compliance issued June 5, 2008, please find transmitted herewith a replacement Claims Appendix

Respectfully Submitted,
Hamid Ould-Brahim

By: _____
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Nergiz Chinoy

(i) *Claims Appendix*

1. (rejected, on appeal) A network for providing switched virtual circuit Layer-2.5 VPNs, said network comprising:

a set of elements interconnected by services;

at least one first subset of said elements defining a private network;

at least one second subset of elements different from said first subset defining a provider network wherein at least two subgroups of said first subset of elements may be connected via said provider network, said second subset of elements implementing a Layer-3 VPN service;

a provisioning mechanism used to define element membership in said first subset of elements;

a plurality of customer ports maintained on said elements of said first subset of elements;

a plurality of provider ports maintained on said second set of elements, each of said plurality of provider ports connected by services to a customer port, where said services allow said elements of said first subset of elements to establish Layer-3 peering with said second set of elements to exchange routing information;

a port information table at each element of said provider network having a provider port among said plurality of provider ports, said port information table containing mapping information relating addresses of said customer ports to addresses of said provider ports for said first subset of elements;

a signalling mechanism used to create Layer-2 connectivity between elements within said first subset of elements at the Layer-2 level across said Layer-3 VPN service implemented by said second subset of elements; and

a reachability distribution mechanism;

such that a layer-2 VPN may be provided across said Layer-3 VPN service.

2. (rejected, on appeal) A network for providing switched virtual circuit Layer-2.5 VPNs as claimed in claim 1, wherein said reachability distribution mechanism uses a Layer-3 VPN service.

3. (rejected, on appeal) A network for providing switched virtual circuit Layer-2.5 VPNs as claimed in claim 2, wherein said a subset of Layer-3 VPN service piggybacks VPN routes onto the backbone Border Gateway Protocol.

4. (rejected, on appeal) A network for providing switched virtual circuit Layer-2.5 VPNs as claimed in claim 2, wherein said a subset of Layer-3 VPN service uses a virtual router redistribution scheme.

5. (rejected, on appeal) A network for providing switched virtual circuit Layer-2.5 VPNs as claimed in claim 1, wherein said signalling mechanism is an MPLS signalling mechanism.

6. (rejected, on appeal) A network for providing switched virtual circuit Layer-2.5 VPNs as claimed in claim 1, further comprising an auto-discovery mechanism for distributing said mapping information to port information tables of said provider network.

7. (rejected, on appeal) A network for providing switched virtual circuit Layer-2.5 VPNs as claimed in claim 6, wherein said auto-discovery mechanism for distributing said mapping information uses Border Gateway Protocol.

8. (rejected, on appeal) A network for providing switched virtual circuit Layer-2.5 VPNs as claimed in claim 1, wherein said provisioning mechanism operates in conjunction with said signalling mechanism to restrict element connectivity to elements of said first subset.

9. (rejected, on appeal) A network for providing switched virtual circuit Layer-2.5 VPNs as claimed in claim 1, wherein said data and signalling services have IP signalling services.

10. (rejected, on appeal) A network for providing switched virtual circuit Layer-2.5 VPNs as claimed in claim 1, wherein said customer port addresses need be unique only within said first subset of elements.

11. (rejected, on appeal) A network for providing switched virtual circuit Layer-2.5 VPNs as claimed in claim 1, wherein said customer port addresses and provider port addresses use an addressing scheme chosen from the group of IPv4, IPv6, and NSAP.

12. (rejected, on appeal) A method of organizing a network having a set of elements interconnected by services, wherein at least one first subset of said elements defines a private network and at least one second subset of elements different from said first subset defines a provider network implementing a Layer-3 VPN service and wherein at least two subgroups of said first subset of elements may be connected via said provider network, said method comprising:

defining element membership in said first subset of elements via a provisioning mechanism;

establishing a plurality of customer ports within said elements of said first subset of elements;

establishing a plurality of provider ports within said second set of elements, each of said plurality of provider ports connected by services to a customer port, where said services allow said elements of said first subset of elements to establish Layer-3 peering with said second set of elements to exchange routing information;

establishing a port information table at each element of said provider network having a provider port among said plurality of provider ports, said port information table containing mapping information relating addresses of said customer ports to addresses of said provider ports;

determining reachability across said second subset of elements; and

creating Layer-2 connectivity within said first subset of elements at the Layer-2 level across said Layer-3 VPN service implemented by said second subset of elements via a signalling mechanism;

thereby allowing provision of a Layer-2 VPN across said Layer-3 VPN service while allowing provision of Layer-3 services.

13. (rejected, on appeal) The method of claim 12 wherein said reachability is determined via a Layer-3 VPN service.

14. (rejected, on appeal) The method of claim 13 wherein said Layer-3 VPN service piggybacks VPN routes onto the backbone Border Gateway Protocol.

15. (rejected, on appeal) The method of claim 13 wherein said Layer-3 VPN service uses a virtual router redistribution scheme.

16. (rejected, on appeal) The method of claim 12, further comprising distributing said mapping information to port information tables of said provider network via an auto-discovery mechanism.

17. (rejected, on appeal) The method of claim 16, wherein said auto-discovery mechanism for distributing said mapping information uses Border Gateway Protocol.

18. (rejected, on appeal) The method of claim 12 further comprising restricting element connectivity to elements of said first subset via said provisioning mechanism operating in conjunction with said signalling mechanism.

19. (rejected, on appeal) The method of claim 12 wherein said signalling mechanism is an MPLS signalling mechanism.

20. (rejected, on appeal) The method of claim 12 wherein said data and signalling services have IP signalling services.

21. (rejected, on appeal) The method of claim 12 wherein said customer port addresses need be unique only within said first subset of elements.

22. (rejected, on appeal) The method of claim 12 wherein said customer port addresses and provider port addresses use an addressing scheme chosen from the group of IPv4, IPv6, and NSAP.

23. (rejected, on appeal) A method of organizing a network having a set of elements interconnected by services, wherein at least one first subset of said elements defines a private network and at least one second subset of elements different from said first subset defines a provider network and wherein at least two subgroups of said first subset of elements may be connected via said provider network, said method comprising:

defining a L2VPN topology;

establishing a plurality of customer ports within said elements of said first subset of elements;

establishing a plurality of provider ports within said second set of elements, each of said plurality of provider ports connected by data and signalling services to a customer port, where said data and signalling services allow said elements of said first subset of elements to establish Layer-3 peering with said second set of elements to exchange routing information;

creating a Layer-2 Port Information Table for each provider port;

establishing the identity of said customer ports attached to each provider port among said plurality of provider ports, and populating the Layer-2 Port Information Table at said each provider port with mapping information relating addresses of said customer ports to addresses of said provider ports;

distributing said mapping information to Layer-2 Port Information Tables of said provider network via an auto-discovery mechanism;

determining reachability across said second subset of elements via a Layer-3 VPN service; and

creating Layer-2 connectivity within said first subset of elements at the Layer-2 level across said Layer-3 VPN service implemented by said second subset of elements via a signalling mechanism upon request from an element within said first subset of elements;

thereby allowing provision of a Layer-2 VPN across said Layer-3 VPN service while allowing provision of Layer-3 services.

24. (rejected, on appeal) A network for providing switched virtual circuit Layer-2.5 VPNs, said network comprising:

a plurality of customer edge devices associated in a Layer-2 Virtual Private Network;

a plurality of provider edge devices associated in a Layer-3 Virtual Private Network, where each provider edge device of said plurality of provider edge devices is configured to:

receive Layer-3 routing instructions from an attached customer edge device of said plurality of customer edge devices;

receive Layer-2 data frames from said attached customer edge device;

route said Layer-2 data frames through said Layer-3 Virtual Private Network according to said Layer-3 routing instructions.